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Poverty-Related Diseases Attack Simultaneously

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A 10-year-old girl was admitted in Benin (West Africa) with trismus, irritability, and fever. Physical examination revealed clinical findings compatible with tetanus, including a stiff neck, opisthotonus, risus sardonicus, and dysphagia (Figure 1A). On her right arm, she had an ulcer for 2 months. By IS2404 polymerase chain reaction,[1] the ulcer was confirmed as Buruli ulcer, caused by *Mycobacterium ulcerans*, a neglected tropical disease (Figure 1B). The ulcer was treated with a black powder by a local traditional healer. We believe this procedure may have introduced the *Clostridium tetani* spores because 1 year ago, another Buruli ulcer patient presented with tetanus after a similar traditional treatment. The patient was treated in a quiet, dark room with equine antitoxin, metronidazol, and diazepam. She did not receive tetanus vaccinations in the past. The Buruli ulcer was initially treated with wound care and 8 weeks of rifampicin and streptomycin. Nine days after admission, an *Ascaris lumbricoides* crawled out of the patient's nose (Figure 1C). Adult worms tend to migrate in the presence of anesthetics or fever.[2] We suspect her generalized tetanic spasms to have directed this worm toward her nose. Twenty-two days after admission, the generalized tetanic spasms abated. The ascariasis was treated with albendazole.

The patient was discharged 10 months after admission because of a complicated treatment of the Buruli ulcer consisting of multiple debridements and skin grafting. There were no signs of osteomyelitis. This patient unfortunately has permanent functional limitations of her wrist as a consequence of Buruli ulcer. Permanent functional limitations are common in former Buruli ulcer patients, especially in patients with large ulcers.[3]

These three panels illustrate the fact that poverty-related diseases are coendemic and may lead to a synergistic threat to a persons' health.

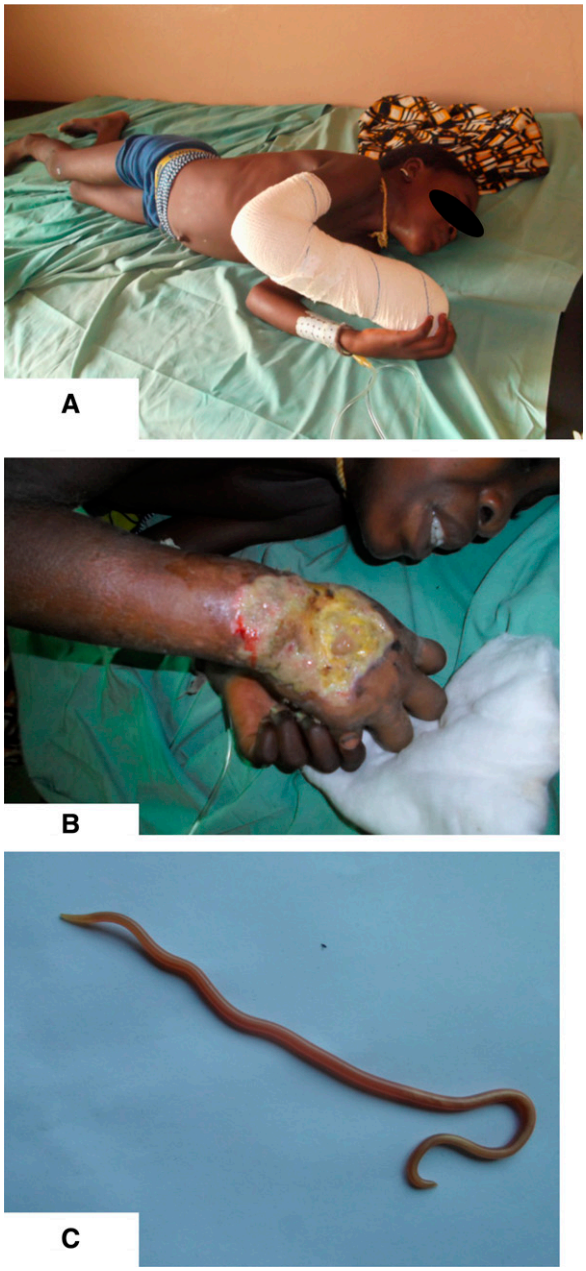

FIGURE 1. Poverty-related diseases attack simultaneously; tetanus, buruli ulcer and ascariasis.

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